



**UNDER THE HIGH PATRONAGE OF HIS MAJESTY KING MOHAMMED VI MAY GOD
ASSIST HIM**

**The 7th IEEE International Conference on Cloud Computing and Artificial
Intelligence: Technologies and Applications - CloudTech'25**

November 25-26 2025, ENSIAS, RABAT, MOROCCO

Program

Session		Topics
S-I	A	Cloud and Artificial Intelligence
	B	Cloud-Native DevOps and Artificial Intelligence
S-II	A	Artificial Intelligence Applications I
	B	Artificial Intelligence Applications II
S-III	A	Artificial Intelligence in e-learning and Education
	B	Digital Transformation, IoT and IoB
S-IV	A	Cloud Security and Privacy I
	B	Cloud Security and Privacy II

	Tuesday, November 25 th	Wednesday, November 26 th	
08:00 08:30 09:00	Welcome/Registration (ENSIAS, Mohammed V University)	Welcome/Registration (ENSIAS, Mohammed V University)	
09:00 09:10 09:30	Opening Ceremony Room 1	Keynote 4 Pr. Sidi Ahmed Mahmoudi Room 1	
09:30 10:00 10:10 10:20 10:30 10:50 11:00	Coffee Break	Coffee Break	
11:00 11:30 12:00 12:20 12:30	Keynote 1 Pr. Takayuki Kushida Room 1	Keynote 5 Pr. Omar Alfandi Room 1	
12:30 14:00	Lunch Break	S-III (A) Room 1	S-III (B) Room 2
14:00 14:10 14:30 15:00	Keynote 2 Pr. Radouane Mrabet Room 1	Keynote 6 Pr. Dhabaleswar K. Panda Room 1	
15:00 15:20 15:30 16:00	S-I (A) Room 1	S-I (B) Room 2	S-IV (A) Room 1
16:00 16:30	Coffee Break	S-IV (B) Room 2	Coffee Break
16:30 16:40 17:00 17:20 17:30	Keynote 3 Pr. Claude Tadonki Room 1	Keynote 7 Pr. Frank Domoney Room 1	
17:30 17:30 18:00 18:30	S-II (A) Room 1	S-II (B) Room 2	Closing ceremony
18:30 19:00		Coffee Break	
19:00 22:00	Gala Dinner		

	Thursday, November 27th
09:00 09:30 10:00 10:30 11:00 11:30 12:00	Workshop on Quantum Computing by Prof. Frank Domony Part I Room 2
12:00 14:00	Lunch Break
14:00 14:30 15:00 15:30 16:00 16:30 17:00	Workshop on Quantum Computing by Prof. Frank Domony Part II Room 2

Talks

Keynote 1	Integrated Systems Management of Cloud and IoT Powered by AI Takayuki Kushida, School of Computer Science, Tokyo University of Technology, Japan	Tuesday 11:00 -12:30
Keynote 2	Learning in the era of artificial intelligence: e-learning reinvented Radouane Mrabet, Mohammed V University in Rabat, Morocco	Tuesday 14:00 – 15:00
Keynote 3	What do HPC applications look like? Claude Tadonki, MINES ParisTech Institute, France	Tuesday 16:30 – 17:30
Keynote 4	Key challenges of modern DNN models: evaluation, explainability and multimodal learning Sidi Ahmed Mahmoudi, Faculty of Engineering, University of Mons, UMONS, Belgium	Wednesday 09:00 – 10:00
Keynote 5	The AI-Powered Cloud: Redefining Infrastructure for the Next Digital Era Omar Alfandi, Dean of the College of Technological Innovation at Zayed University, UAE	Wednesday 10:30 – 11:30
Keynote 6	Designing High-Performance and Scalable Middleware for the Modern HPC and AI Era Dhabaleswar K. Panda, The Ohio State University, USA	Wednesday 14:00 – 15:00
Keynote 7	An African Quantum Education System and Quantum Cloud and Internet Frank Domoney, Director at Glencroft Ltd, Lavenham Suffolk, UK, Chief Information Officer at Anglia Maghreb Quantum Cities	Wednesday 16:30 – 17:30

Presentation guidelines:

- All presentations **should be in English**.
- The time provided for **Full** oral presentations is 15 min (presentation and discussion).
- The speakers should give their slides to the session chair before the beginning of each session.

S-I (A)	Cloud and Artificial Intelligence
	Chair: -Pr. Takayuki Kushida, Tokyo University of Technology, Japan
Tuesday, November 25 15:00–16:00	CPU Load Prediction of Heterogeneous Cloud Applications Using Lightweight Models (ID-69) Ashir Javeed, Anton Borg, Håkan Grahm, Lars Lundberg, Dhyey Patel and Sogand Shirinbab
	Improving Innovation Prediction with resampling techniques : A Probit Approach on Imbalanced Data (ID-72) Khawla Belarrem and Fatima-Zahra Aazi
	Speech Recognition for Moroccan Dialect : A CNN-Based Approach with Data Augmentation (ID-75) Imane Biya and El Wardani Dadi
	Enhancing Arabic Document Re-ranking with BERT-Based Relevance Classification (ID-80) Mohammed Benali and Zouhair Lakhyar
	Optimization of AI Algorithms for the Automatic Detection of Kidney Stones: Comparative Analysis and Insights (ID-59) Raja Ben Bouch and Redouan Korchiyne

S-I (B)	Cloud-Native DevOps and Artificial Intelligence
	Chair: -Pr. Claude Tadonki, Mines ParisTech, Ecole de Mines de Paris, France
Tuesday, November 25 15:00–16:00	Intelligent Cloud-Native DevOps for Dynamic SDN Controller Placement and Orchestration (ID-42) Ouafae Benoudifa, Abderrahim Ait Wakrime, Samir Ouchani and Redouane Benaini
	A Multi-Agent Intelligent System for Enhanced Water Quality Monitoring and Decision Support (ID-28) Nadir Ehmimed, Mohamed Yassin Chkouri and Abdellah Touhafi
	A Survey of Energy Efficiency for Sustainable Kubernetes Operations (ID-23) Mohamed Laharraf, Kamal Idrissi Hamza and Driss Allaki
	Experimental Evaluation and Analysis of Gradient Descent in Machine Learning (ID-89) Imane Ettifouri, Mostapha Zbakh and Claude Tadonki
	A Maturity-Aware Conceptual Framework for Early-Stage SME Cloud Adoption using Conversational AI (ID-53) Salma Dkier, Souad Sadki and Hanan El Bakkali

S-II (A)	Artificial Intelligence Applications I
	Chair: -Pr. Ali Idri, ENSIAS, Morocco
Tuesday, November 25 17:30–19:00	Adversarial Robustness in Deep Learning-Based Pneumonia Detection from Chest X-Rays (ID-8) Ayoub Akennaf, Mounia Mikram and Maryem Rhanoui
	A Multi-Model Approach for Image Restoration: Combining SRCNN, Pix2Pix GAN, and SwinIR for Enhanced Face and Object Restoration (ID-14) Zarhmir Brahim, Dkhissi Chaymae, Benssaria Ez-Zahra and Slimani Ilham
	Modeling Emotional Transitions Using HMM for Arabic Multi-Label Sentiment Analysis (ID-15) Hafida Hidani, Safaa El Ouahabi and Mouncef Filali Bouami
	Enhancing LLM Responses through Emotion-Aware Prompt Engineering (ID-17) Hanae Aurag, Safâa El Ouahabi and Mouncef Filali Bouami
	Sentiment Analysis in Moroccan Darija: Comparative Evaluation of Transformer Models for a Large-Scale Multi-Domain Dataset (ID-18) Sara El Ouahabi, Safaa El Ouahabi and El Wardani Dadi
	Enhancing AI-Based Plant Disease Recognition by Integrating SPD-Conv into MobileNetV1 (ID-79) Nouh Abboune, Widad Dinne, El Hassan Ait Laasri and Abderrahman Atmani
	An African Quantum Education System and Quantum Cloud and Internet 2025 (ID-27) Frank Domoney, Souhaina Belabssir and Manar Chahbi

S-II (B)	Artificial Intelligence Applications II
	Chair: - Frank Domoney, Director at Glencroft Ltd, Lavenham Suffolk, UK
Tuesday, November 25 17:30–19:00	Co-Design and Deployment of Real-Time YOLO Tiny v3 Object Detection on a Heterogeneous FPGA Platform : A Case Study on Zynq-7000 SoC (ID-19) Smaali Abderrahmane and Said Ben Alla Abdellah Touhafi
	Artificial intelligence for stock recommendation in the Moroccan market : advantages and challenges (ID-20) Atika Elouizi and Hajar Moutassim
	Prediction of Air temperature, Soil moisture and Relative Humidity using Ensemble Machine Learning models in Agriculture (ID-22) Afizou Yayé Kaka, Boutaina Hdioud and Rachid Oulad Haj Thami
	Multi-Class ECG Signal Classification Using Deep Learning (ID-30) Amal El Bekkaoui, Nabaouia Louridi, Samira Douzi and Bouabid El Ouahidi
	Integrating Marker-Controlled Watershed Transformation and Class-Balanced Deep Learning for Robust Diabetic Retinopathy Screening (ID-41) Assma Ihiya, Bahia Ouazzani Chahdi, Samira Douzi and Bouabid El Ouahidi
	Tiny ML and Auditable ML for Enhanced Aviation Security (ID-46) Chaymae Majdoubi, Saida Elmendili and Youssef Gahi
	Time Series Forecasting of Solar-Driven Green Hydrogen Production Using Neural Networks with Carbon-Aware Training (ID-49) Mohamed Yassine Rhafes, Omar Moussaoui, Abdelhamid Rabhi and Jérôme Bosche

S-III (A)	Artificial Intelligence in e-learning/education
	Chair: -Pr. Mahmoud Nassar, Pr. Amine Berqia, ENSIAS, Morocco
Wednesday, November 26 11:30–12:30	DeepSRL: A Fine-Tuned DeepSeek R1 Model for Generating Personalized Self-Regulated Learning Prompts (ID-38) Imane El Mourabit, Said Jai Andaloussi, Ouail Ouchetto and Mounia Miyara
	A Deep Learning Model for Student Dropout Prediction (ID-40) Houssam El Aouifi, Mohamed El Hajji and Youssef Es-Saady
	The impact and potential of Large Language Models in personalized learning environments (ID-56) Yasser Aderghal, Abdellatif El Ghazi and Hakim Hafidi
	Detecting Cognitive Fatigue in Online Learners: A Big Data Approach (ID-65) Houda Amazal
	Identifying AI-Originated Responses in Online Exams via Keystroke Dynamics Analysis (ID-68) Farida Jaha, Ali Kartit and Mohamed Fertat

S-III (B)	Digital transformation and IoT/IoB
	<u>Chair:</u> -Pr. Pierre Manneback, UMONS University, Mons, Belgium
Wednesday, November 26 11:30–12:30	Advanced data systems for 4.0 and 5.0 applications (ID-86) Nourredine Bendjelloul, Tojo Valisoa Andrianandrianinajohanesa and Sidi Ahmed Mahmoudi Influencing Energy Consumption Behaviors in Smart Cities Through an IoB Framework (ID-5) Imane Moustati and Noredine Gherabi and Bahaa Eddine Elbaghazaoui and Mohamed Amnai From Behavioral Data to Signals : An IoB Framework for Automated Portfolio Management (ID-39) Imane Moustati and Noredine Gherabi and Bahaa Eddine Elbaghazaoui and Mohamed Amnai Optimizing WSNs with Big Data and Federated Learning : A Comprehensive Review (ID-87) Ayoub Benlamkadem and Asmae El Ghazi and Ahmed Lazaar and Moulay Driss Rahmani Adaptive Batch Evaluation of Audio Source Separation : Dynamic Segmentation and Normalization for Robust Demucs Assessment (ID-73) Nawal Elhamdouni and Abdellah Adib

S-IV (A)	Cloud Security and privacy I
	Chairs: -Pr. Rdouan Faizi, Pr. Souad Sadki, ENSIAS, Morocco
Wednesday, November 26 15:00–16:00	Secure Standard-Based Approach to Cloud Interoperability in E-Government (ID-26) Joseph Quinn, Hyung Jae Chang and Kishan Rajdev
	AI-Driven Solutions in Cybersecurity and the Rise of Biometric Authentication (ID-10) Mustapha Zeroual and Abderrazek Karim and Faycal Bensalah and Youssef Baddi
	A comprehensive survey on System-on-Chip security risks and mitigation techniques (ID-21) Ali Berchane and Ahmed El-Yahyaoui
	Contextual Embedding Techniques for Malware Analysis : A Comparative Study based of Machine Learning Approaches (ID-24) Majed Saleh Almaleky and Mimoun Lamrini and Mohamed Yassin Chkouri and Abdellah Touhafi
	A Modular DevSecOps framework for Vulnerability Detection, Risk Scoring, and LLM-Augmented Remediation in CI/CD Environments (ID-44) Souad Sadki, Asmae Lamgari and El Yazid Tebbaa

S-IV (B)	Cloud Security and privacy II
	Chair: -Pr. Hanane El Bakkali, ENSIAS, Morocco
Wednesday, November 26 15:00–16:00	Post-Quantum Security in Blockchain Layer-2 Solutions : Challenges and Approaches (ID-50) Nouhaila Hanbali and Ahmed El-Yahyaoui
	Behavior-Based Ransomware Detection Using DLL Interaction Analysis (ID-54) Zirari Khalid, Hamza Kamal Idrissi, Ahmed El-Yahyaoui, Hicham Bensaid and Abdeslam En-Nouaary
	AI-Powered Threat Detection in the Cloud: A Smart IDS Framework (ID-52) Salma Laaouamir, Imane Ziad, Souad Sadki and Mostapha Zbakh
	AI-Powered Risk Management for Healthcare Data Security : CAML-EHDS Model (ID-62) Abderrahmane Fathi, Kawtar Mouyassir and Ali Kartit
	TOWARD INTELLIGENT INTRUSION DETECTION IN SDN NETWORKS : CHALLENGES, SOLUTIONS, AND PERSPECTIVES (ID-77) Azizi Najoua, Jamali Abdellah, Naja Najib and Sahmi Imane